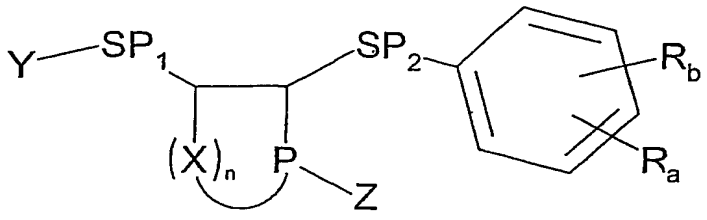
Claims

1. A compound according to formula I



I

wherein

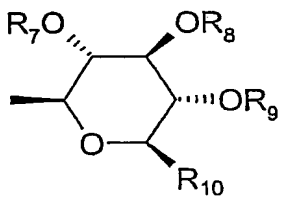
P represents -N< or -C=,

X represents independently of each other $-CH_2-$, CR_1 (sp_2-hybridised), O, -NH-, =N-, -CO- or -CS-, wherein R_1 represents H or NR_2, wherein R_2 represents H or lower alkyl, which optionally is linked to Z such that a bicyclic structure is formed;

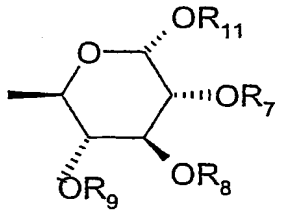
n represents 1 or 2,

R_a represents H, lower alkyl, $-OR_3$, $-O(CO)R_3$, $-O(CO)OR_3$, $-O(CO)NR_3R_4$, $-NR_3R_4$, $-NR_3(CO)R_4$, $-COOR_3$, $-CONR_3R_4$, $-CH=CHCOOR_3$, $-CF_3$, -CN, $-NO_2$, SO_3H, PO_3H or halogen, wherein R_3 and R_4 represent H or lower alkyl,

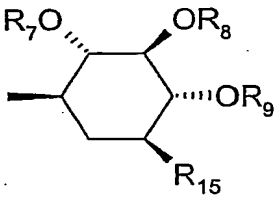
R_b represents H, OH, $-OSO_2Me$, $-OSO_2W$ wherein W represents optionally substituted aryl or heteroaryl, $-OCO(CHOH)_2COOR_5$ wherein R_5 represents H or lower alkyl; or represents the formula $-Sp_3-R_6$,
wherein Sp_3 represents a covalent bond, -O-, $-OCH_2-$, $-OSO_2CH_2-$, $-OSO_2-$, $-OSO_2-(p)C_6H_4O-$ and R_6 represents one of carbohydrate structures A-D:



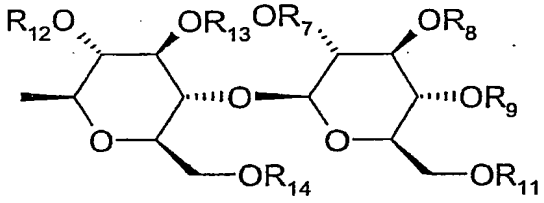
A



B



C



D

wherein

R_7, R_8, R_9, R_{11}, R_{12}, R_{13} and R_{14} represent independently of each other H, lower alkyl, aryl(lower alkyl), -CO-lower alkyl, -CO-aryl, $-SO_3^-$ or $-PO_3^-$,

R_{10} represents $-CH_2OR_{16}$ or $-COOR_{17}$, and

R_{15} represents $-CH_2OR_{16}$, $-COOR_{17}$, $-CH_2NH_2$, $-CH_2OPO_3^-$ or $-CH_2OSO_3^-$, wherein R_{16} and R_{17} independently of each other represent H, lower alkyl, aryl(lower alkyl), -CO-lower alkyl, -CO-aryl, $-SO_3^-$ or $-PO_3^-$,

Z represents optionally substituted aryl or heteroaryl,

Sp_1 represents a spacer unit, such as a straight-chain or branched lower alkyl group $-(CH_2)_p-$, wherein p is from 2-6, which is unsubstituted, mono or poly-substituted by -OH, $-OR_{18}$, halogen or cyano group, wherein one or more $-CH_2-$ groups may independently be replaced by -O-, -CO-, -CO-O-, -O-CO-, $-NR_{19}-$, $-NR_{19}-CO-$, $-CO-NR_{19}-$, -CH=CH-, -C≡C- -and wherein R_{18} and R_{19} represent a hydrogen atom or lower alkyl;

Sp_2 represents an optional spacer unit, such as a covalent bond or a straight-chain or branched lower alkyl group -

$(CH_2)_q$-, wherein q is from 1-6, which is unsubstituted, mono or poly-substituted by -OH, $-OR_{20}$, halogen or cyano group, wherein one or more $-CH_2-$ groups may independently be replaced by -O-, -CO-, -CO-O-, -O-CO-, $-NR_{21}$-, $-NR_{21}$-CO-, $-CO-NR_{21}$-, -CH=CH-, -C≡C- -and wherein R_{20} and R_{21} represents a hydrogen atom or lower alkyl;

Y represents optionally substituted aryl or heteroaryl,

with the proviso, that if P = -N<, n=1, X = -CO- and Sp_2 represents a covalent bond, R_6 may not represent carbohydrate structures A or D for Sp_3 = -O- and R_6 may not represent carbohydrate B for Sp_3 = $-OCH_2-$.

2. A compound according to claim 1,

with the proviso, that if P = -N<, n=1, X = -CO- and Sp_2 represents a covalent bond, R_b may not represent H or OH and Sp_3 may not represent a covalent bond, -O- or $-OCH_2-$.

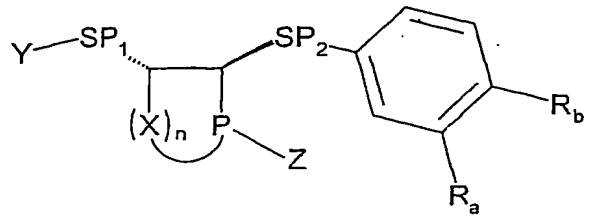
3. A compound according to claims 1 or 2 wherein P = -N<, n = 1 and X = -CO-, -CS-, $-CH_2-$ or -NH-.

4. A compound according to claims 1 or 2 wherein P = -N<, n = 1 and X = -CS-, $-CH_2-$ or -NH-.

5. A compound according to claims 1 or 2 wherein P = -N< and $-(X)_n-$ = -OOC-, -COO-, -CONH-, -CH=N-.

6. A compound according to claims 1 or 2 wherein P = -C= and $-(X)_n-$ = -NH-N= or -O-N=.

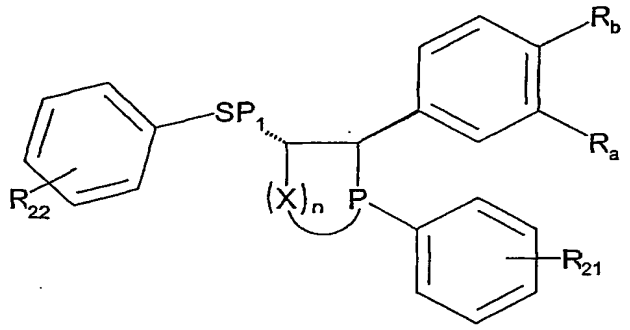
7. A compound according to claims 1 or 2 having the formula IVa



IVa

wherein R_a, R_b, Sp_1, Sp_2, P, X, Y, Z and n are as defined in claims 1 or 2.

8. A compound according to claims 1 or 2 having the formula IVb,



IVb

wherein R_a, R_b, Sp_1, P, X and n are as defined hereinabove and wherein R_{21} and R_{22} represent H, lower alkyl, lower alkoxy or halogen.

9. A compound according to claims 7 or 8 wherein P = -N<, n = 1 and X = -CO-, -CS-, $-CH_2-$ or -NH-.

10. A compound according to claims 7 or 8 wherein P = -N<, n = 1 and X = -CS-, $-CH_2-$ or -NH-.

11. A compound according to claims 7 or 8 wherein P = -N< and $-(X)_n-$ = -OOC-, -COO-, -CONH-, -CH=N-.

12. A compound according to claims 7 or 8 wherein P = -C= and $-(X)_n-$ = -NH-N= or -O-N=.

13. A pharmaceutical composition comprising a therapeutically

effective amount of a compound of any preceding claim with a pharmaceutically acceptable carrier.

14. A pharmaceutical composition according to claim 13 for the treatment or prevention of artheriosclerosis or for the reduction of cholesterol levels.

15. A kit comprising a pharmaceutical composition according to claim 13 for use in the treatment or prevention of artheriosclerosis or for the reduction of cholesterol levels.

16. A method for the treatment or prevention of artheriosclerosis or for the reduction of cholesterol levels comprising administering to a subject in need of such treatment an effective amount of a compound according to claims 1 to 12.

17. Use of a compound according to claims 1 to 12 for the manufacture of a medicament for the treatment or prevention of artheriosclerosis or for the reduction of cholesterol levels.